

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date  
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number  
**WO 2005/069664 A1**

(51) International Patent Classification<sup>7</sup>: H04Q 7/34. H04B 17/00, G01R 29/08

(74) Agent: YOU ME PATENT & LAW FIRM; Seolim Bldg., 649-10, Yoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(21) International Application Number: PCT/KR2005/000129

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DY, EC, EE, EG, ES, FI, GB, GI, GH, GM, HR, IU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 14 January 2005 (14.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
10-2004-0003214 16 January 2004 (16.01.2004) KR

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SI, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): KT-FRETEL CO., LTD. [KR/KR]; 890-20, Dacchi-dong, Gangnam-gu, Seoul 135-280 (KR).

(72) Inventors; and

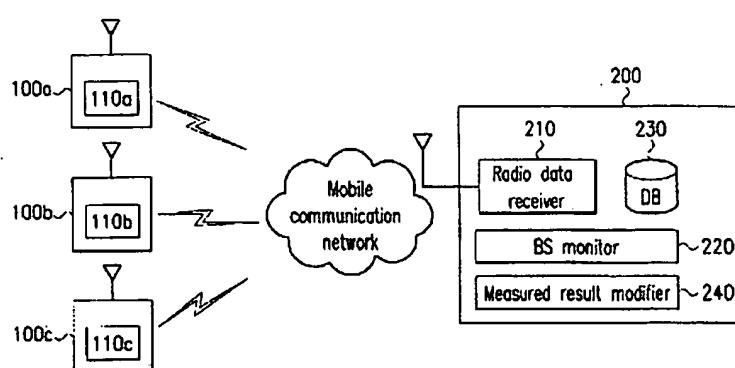
(75) Inventors/Applicants (for US only): SONG, Jae-Sub [KR/KR]; 16-1104 Asiasconsuchon apt., Jamsil 7-dong, Songpa-gu, Seoul 138-797 (KR). CHOI, Jin-Ho [KR/KR]; 306-704 Jugong apt., 406 Cheonghak-ri, Byeolnae-myeon, Namyangju-city, Gyeonggi-do 472-811 (KR). KIM, Jae-Kon [KR/KR]; 27-310 Jangmi apt., 11 Sincheon-dong, Songpa-gu, Seoul 138-240 (KR). LEE, Jung-Ho [KR/KR]; 487-7 Amsa-dong, Gangdong-gu, Seoul 134-859 (KR).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: DEVICE AND METHOD FOR REMOTELY MEASURING AND MONITORING ANTENNA SYSTEM USING MOBILE TERMINAL



(57) Abstract: An antenna system measurer (110a, 110b, 110c) for a repeater and a base station (10) measures powers of a progressive wave and a reflected wave of a transmit/receive antenna, and transmits measured results to a monitoring server (200) in a radio data format such as an SMS message. The monitoring server (200) receives the radio data, identifies a repeater and a base station from sender information of the radio data, and calculates a VSWR based on the measured values. The VSWR is modified based on characteristics of the base

**WO 2005/069664 A1**

station such as length and substance of feeders from a base station identifier corresponding to the present invention, the remote antenna system is monitored in real-time without visits or installation fees, and a plurality of repeaters and base stations is managed in a combined manner.